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ABSTRACT

The major negative factor to the full integration of televised instruction into the educational system has always been cost, either because of the initial investment or the time required to develop courseware. Resistance to change has always been and continues to be the greatest barrier to the use of all technologies in education. Countless studies have proven that students do just as well using the many variations of telecourses as they do taking the course in the traditional method. From the administrator's perspective, the keys to academically sound and productively effective use of television are as follows: (1) devise an overall strategic plan for reaching students using the best available means; (2) build the support system as the course progresses; (3) design the courses to be learner centered and teacher managed; and (4) maintain the personal touch. Some specific guidelines for preparing teachers to use video are the following: treat the course as unique and special; be a real, caring, genuine teacher; reveal oneself; be prepared; encourage student involvement and interaction; honor the student; recognize and prepare for differences in learning styles; and plan to ask how, why, what, or what if. A satellite called TELSTAR 401 launched in December 1993 will be used to broadcast educational opportunities nationwide and will force states and other agencies to rethink student policy. (Contains 13 references.) (YLB)

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Home Improvement II

(Using Television In Skill Development)

A Paper Prepared for

American Vocational Association
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Technical Education Division
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Introduction

In a recent editorial in the Vocational Education Journal, Charles H. Buzzell, American Vocational Association (AVA) Executive Director, stated,

> "It should be clear to all that every student needs "job" preparation of some sort. The various job requirements will dictate curriculum changes needed.
>
> If a job involves the use of new technology, it behooves schools to introduce that technology into the curriculum.
>
> Also, as job skills requirements change, we should have the capacity to regularly bring graduates back into the system for skill enhancement or total job re-training. Thus we will have developed the ability to provide life long learning." (1)

Dale Parnell, former president of the American Association of Community and Junior Colleges, also believes we have much work to do in the area of education. He sounds the alarm in his book Dateline 2000 by saying,

> "Two converging forces, a skilled worker shortage and the development of a permanent underclass, are bearing down upon the United States. Demographers tell us that by the year 2000 there will be a significant shortage of qualified people to fill the available jobs, and many of the individuals who should fill these jobs will be unmotivated, undereducated, underhoused -- a permanent underclass." (2)

Anthropologist Margaret Mead said it this way, "We are now at the point where we must educate people in what nobody knew yesterday and prepare in our schools for what no one knows yet, but what some people must know tomorrow." (3) A tough duty assignment for the already beleaguered schools of our nation. Realizing the importance of education to our nation during these rapidly changing times is not difficult to do. As far back as 1986 Kiplinger was predicting,

> In 1925 Calvin Coolidge said, "the business of America is business." Today, I say "the business of America is EDUCATION." Education constructs the foundation of technology, and technology in turn provides the track for industry and commerce to advance into the 21st century... (4)

Our educational needs are great. The budget crunch is on. What do we do next? Use the available technology in the best possible way to teach the greatest number of our citizens. Easier said than done you say. Briefly, we will discuss some options that have worked for others. Maybe something will catch your eye.

Teaching Using Television: What's New?

Educational television had its beginnings in the 1950s. Long before that, in 1922, Will Rogers, the Oklahoma humorist, movie star, columnist and trick roper wrote and produced an educational film called "The Roping Fool". In it he took great pains to demonstrate his trick roping step by step. He painted the rope with white shoe polish and used a coal black horse for effect. Will even used slow motion techniques for certain throws, a very innovative idea at that point in film-making history. (5)

Why, then, has it taken us so long to fully integrate televised instruction into our educational systems? The major negative factor has always been cost, either because of the initial investment or due to the amount of time required to develop courseware. Aside from cost, resistance to change has always and continues to be the greatest slow-down for use of all technologies in education. The resistors first argued that television would replace teachers altogether.

Countless studies have proven beyond a logical doubt that students do just as well using the many variations of telecourses as they do taking the course in the traditional method. During an interview with Major Phil Westfall, Director of the Center for Distance Learning at the Air Force Institute of Technology, he pointed out "there is no significant differences on learning parameters when Distance Learning media is used." (6) However, the cost savings and productivity increases are real. For example, one course called Systems 200 for acquisition professionals costs $1100 per student to deliver in the on-site classroom. Approximately 300 students per year could be taught using this method. When Distance Learning media was introduced the cost dropped to $100 per student and throughput increased to 3500 students per year.

Major Westfall went on to say that the Air Force's smaller workforce, leaner budget, and growing educational requirements mandated use of the new technology as never before.

In a study done at Rogers State College over a number of years the same conclusive evidence was shown. Comparing history to history and horse management to horse management the telecourse students' completion rate and Grade Point Average was equal to or higher than that of students taking the same classes on campus in a traditional classroom setting. (7)

Building A Program To Reach Students: The Administrators' Perspective

In 1985, Dr. Titsworth was scheduled to the president's office at a small college in Northeastern Oklahoma. The president started the meeting by saying that the college had just received a grant to build a television station. "That's nice," he remembers thinking until the next statement out of the president's mouth was, "I want you to get a station manager hired and get the station on the air soon."

Of course, the rest is history. Mr. Baum was hired as the general manager and went on to build the only full power station licensed to a college or university in Oklahoma. His record of accomplishments and awards are long. But that's not the point. There are a lot of TV stations out there, but very few are devoted solely to an academic mission.

Rogers State College started using television for instructional purposes early on by becoming a charter member in the Higher Education Telecommunications Association (HETA) of Oklahoma. HETA leases commercially available telecourses through a consortia arrangement saving its members thousands of dollars annually.

The advent of the TV station saw introduction of the Multiple Learning Opportunities (MLO) concept (8) where on-campus instructors combined classroom instruction, telecourses and video checkout service to broaden the students options. Thirteen different courses have been produced using this format with six more in production.

The next stage involved a combination of the MLO and Fastrak programs to include an interactive classroom initially tied to two local high schools. The Fastrak program (9) was designed to allow a student to begin college work in high school and receive an associate degree one year after high school graduation. Using the interactive classroom, live classes were offered using a one-way video and two-way audio system designed and built by Mr. Baum. The receiving classroom can be placed in a high school for less than $6,000.

Another major grant allowed the station to build an 800 ft tower and increase its power to 2.75 million watts reaching a service area with a 70 mile radius and a potential student base of over 1 million. Distance education programs accounted for 14% of the total credit hour production in the spring of 1993.

The keys to academically sound and productively effective use of television are:

- Devise an overall strategic plan for reaching students using the best available means.
- Build the support systems as you progress; e.g. teacher preparation and assistance programs, video libraries and viewing and testing centers, telephone answering service, etc.. Every service center on campus must be part of the team.
- Design the courses to be learner-centered and teacher managed. Every course must be assigned to a professional in the field.
- Maintain the personal touch. A student must have a teacher to call. Interactivity can be much more than two-way video and audio.
- Don't say it can't be done until you've really tried. Remember earlier in this paper we mentioned resistance to change as a problem. It hasn't gone away. In RSC's latest

brochures announcing degrees by television you'll still see this statement, "Rogers State College prefers that you take Speech in the classroom." That may be the preferred method, but many other interactive measures could be used to knock down that barrier if desired.

Using Television:
A Teacher's Perspective

Although many would like to think that all teachers will soon be developing their own courseware for use on television, computers and other high tech multi-media equipment, it is not likely for several reasons. Most teachers do not write their own textbooks or their own software for word processing because they do not have the desire, talent or time. Before television use for skill development is widespread it must become readily available at reasonable costs.

Now that we've said that, we are going to make a statement that sounds contradictory in nature. Teachers, prepare thyself for teaching using television, computers, and any other means that will make your knowledge and skills available to the most students in the best way possible. In other words become customer oriented and market driven. Teaching, done correctly, has always been hard work.

Teaching technology can be likened to the introduction of an automatic nail gun to the carpenter's repertoire of tools. Did it make her job easier? No. That gun must weigh at least 200 pounds (weighed at 5 PM) and is much more dangerous than the old hammer and nail system. Very seldom did you ever hear of a carpenter in the 60s nailing his arm to the wall. Did it make the carpenter more productive? A resounding yes is in order.

Chapter 14 of a recent technical guide to distance learning by Portway and Lane gives some specific guidelines for preparing teachers to use video. (10) The author of this chapter, Dr. Virginia Pearson Barnes, points out that successful programs in distance learning rank the factor of the "prepared and motivated, supported teacher" as the second most important success factor.

- Treat your course as unique and special.
- Be a real, caring, genuine teacher.
- Reveal yourself.
- Be prepared.
- Encourage student involvement and interaction.
- Honor the student.

- Recognize and prepare for differences in learning styles.

- Plan to ask how, why, what or what if.

What's Around The Corner:
The Technical Expert's View

In December 1993, a satellite called TELSTAR 401 will be launched. Mr. Baum is directly involved through Louisiana Public Broadcasting and will be on hand to witness the launching at Cape Canaveral. The Air Force Institute of Technology located at Wright-Patterson Air Force Base through the National Technological University and many other educational entities are participating in this major endeavor to broadcast educational opportunities nation-wide.

The educational opportunities that we only dreamed about a few years ago are now just around the corner. States and other agencies such as the Veterans Administration and the Federal Aviation Administration that still tightly limit their students through artificial methods such as requiring a certain number of in-seat hours must re-think their stance. The break-up of Ma Bell was nothing compared to what we are about to see in the academic world. The people are demanding it. This country is consumer-driven in most areas and is rapidly becoming so in our ivory towers.

High Tech / High Touch

In 1982 most of us were enthralled when we read the predictions offered up by John Naisbitt in Megatrends. (12) The one most impressed upon my mind was what he called high tech / high touch. He describes this as a counterbalancing human response when high technology is introduced, without which people will reject the technology. A video tape we recently viewed entitled "The Neighborhood" portrays our high tech world in the 21st century. It clearly demonstrates that the use of the available technology can have the effect of drawing many people closer together rather than apart. The final scene depicts a couple, one at work, one at home ill touching hands on their video phone just as if they were in the same room. It would be too much to ask for things to happen that way automatically, but with the cooperation of a lot of great teachers and terrific technocrats it can happen.

Authors Notes

Tobie R. Titsworth: Recently returned to active duty as a colonel to serve a special tour as Air Force Reserve Advisor to the Commander, Air Force Materiel Command, Wright-Patterson AFB, OH. Previously he was the Vice President for Academics at Rogers State College in Claremore, OK.

James Baum: The Chief Operating Officer for Louisiana Public Broadcasting. Prior to assuming this position he was the General Manager, KRSC-TV-35, Rogers State College, Claremore, OK.

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